

In re Application of ANDREW
Serial No. 09/976,186

REMARKS

The Office action has been carefully considered. The Office action rejected claims 1-7 and 9-24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,714,220 B1 to Sigl et al. ("Sigl") in view of U.S. Patent No. 6,677,933 to Yogaratnum et al. ("Yogaratnum"). Further, the Office action also rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Sigl in view Yogaratnum and in further view of U.S. Patent Publication No.2002/0085038 to Cobbley et al. ("Cobbley"). Applicant respectfully disagrees.

By present amendment, claims 1-3, 11, and 14 have been amended for clarification and not in view of the prior art. Applicant submits that the claims as filed were patentable over the prior art of record, and that the amendments herein are for purposes of clarifying the claims and/or for expediting allowance of the claims and not for reasons related to patentability. Reconsideration is respectfully requested.

Applicant thanks the Examiner for the interview held (by telephone) on March 23, 2006. During the interview, the Examiner and applicant's attorney discussed the claims with respect to the prior art. The essence of applicant's position is incorporated in the remarks below.

Prior to discussing reasons why the applicant believes that the claims in this application are clearly allowable in view of the teachings of the cited and applied references, a brief description of the present invention is presented.

The present invention is directed to a method and system for automatically selecting a software input method and/or adjusting the keys displayed on a

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software input panel of a software input method based on the state of an application, *e.g.*, a state corresponding to the currently focused field in which data is to be entered. The application may be independent from the software input method and its input panel, in that, for example, virtually any application can be used interchangeably with virtually any input method. Furthermore, more than one independent application may simultaneously be provided with an input method. Thus, various enabling applications and various input methods may interact without necessarily having knowledge of one another's features or capabilities.

Additionally, the keys need not be individual characters, but can represent strings of characters or other symbols, such as those most likely to be needed by a user when entering data. For example, when editing in a browser's address field, the user's most-recently accessed Internet and/or Intranet websites may appear on displayed keys for easy selection, along with strings such as "http://", "www.", and/or ".com" that are frequently needed.

In one implementation, an application, which may be one of several coexisting independent applications, may communicate with a software input method manager to provide the software input method manager with information related to a desired input method. For example, the application may communicate (simultaneous with other applications) state information corresponding to a field identifier, whereby the software input method manager can select an appropriate input method for that field. Note that this may occur when the field initially receives focus, or can be at some other time, such as when a user has entered a certain character or string. Further, the application may provide some of the displayed key

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choices to the software input method, such as via the software input method manager, so that the keys may reflect what the application wants displayed and/or what they represent, *e.g.*, a favorites or most recently used list, with representative names to display for user selection.

Note that the above description is for example and informational purposes only, and should not be used to interpret the claims, which are discussed below.

Turning to the rejection of the claims, amended claim 1 recites a system configured to provide user input to a plurality of application programs, comprising a plurality of software input methods that are independent of each of the plurality of application programs, each software input method having an input panel configured to receive user input based on user interaction therewith and stored in a software input method database, a software input method manager independent of each of the plurality of application programs, the software input method manager configured to select a first input method from the plurality of input methods based on a state of a first application program and to select a second input method from the plurality of input methods based on a state of a second application program, to enable user interaction with the input panel of each input method to provide input to each application program; wherein the input method manager database communicates uniquely with the software input method manager, and an application state determination mechanism coupled to the software input method manager and each of the plurality of applications; the application state determination mechanism operable to determine the date of the first and second application programs.

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The Office action rejected claim 1 as being unpatentable over Sigl in view of Yogaratum. More specifically, the Office action contends that Sigl teaches a system to provide user input using a plurality of software input methods (subset panels) independent of the application program (numeric keypads are common to many applications), each with a panel configured to receive the user input based on user interaction therewith. Fig. 2, Ref. 3.2 of Sigl is referenced. Further, the Office action contends that Sigl teaches a software input method manager independent of the application program (Column 2, lines 58-61 and column 6, lines 15 et seq.) configured to select one of the input methods based on the state of the applications program (field selected) to enable the user to interact with that input method to the application program. Figure 3, Ref. 3.5 and 3 of Sigl is referenced.

The Office action correctly acknowledges that Sigl does not teach a plurality of software input methods independent of a plurality of application programs. However, the Office action contends that Yogaratum does teach this recitation and that the combination of Sigl and Yogaratum would have been obvious to a person skilled in the art at the time the invention was made because modifying software input methods to be used with different applications makes for a more versatile input system. Applicant respectfully disagrees.

To establish *prima facie* obviousness of a claimed invention, all of the claim recitations must be taught or suggested by the prior art; (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)), and "all words in a claim must be considered in judging the patentability of that claim against the prior art;" (*In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Further, if prior art, in any

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material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997). Moreover, if a modification would render a reference unsatisfactory for its intended purpose, the suggested modification / combination is impermissible. See MPEP § 2143.01.

Applicants submit that the Office action has failed to establish a *prima facie* case for obviousness. Sigl teaches, generally, a single application within a computer system that is capable of providing multiple input keys for different parameters within the context of a single control application. The actual appearance of the input fields on the screen depends on the nature and type of the parameters. See column 4, lines 60-63 of Sigl. However, the parameters of the application are only meaningful with respect to the virtual keys of the application, and the virtual keys of the application are only meaningful with respect to the parameters provided. See column 4, line 63 to column 5, line 5 of Sigl. Furthermore, the system of Sigl includes help screen that may be displayable in a common format such as a Windows® 95 format. See column 2, lines 50-52. Consequently, the system disclosed in Sigl remains a closed system having a single application program (the help screen is still a part of the single application as nowhere does Sigl teach or even suggest that the help provided is an independent application, and in fact refers to a help function of the application) that provides input fields and interprets input parameters (including help related information) all within the context of the single application. To the extent that Sigl has been construed as teaching an input method manager, this is not a reasonable

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construction, as the fact remains that Sigl teaches nothing that can interact with any other program, only with its own, single application program.

Quite differently, the present invention is directed to a method and system capable of being applied across a plurality of application programs. More specifically, as recited in claim 1, the system comprises a plurality of software input methods that are independent of each of the plurality of application programs, each software input method having an input panel configured to receive user input based on user interaction therewith. In this manner, the application programs may be any possible application program that typically receives inputs from a user. The software input method manager, as well as the plurality of input methods, being independent of the application programs, may be used to provide input to any application program regardless of context, platform, or execution state.

Furthermore, claim 1 recites that the software input method manager is configured to select a first input method from the plurality of input methods based on a state of a first application program and to select a second input method from the plurality of input methods based on a state of a second application program, to enable user interaction with the input panel of each input method to provide input to each application program. That is, the software input method manager is specifically able to interact with more than one application and simultaneously if necessary. Sigl cannot possibly be construed to teach a software input method manager capable of interacting with more than one application because Sigl teaches a closed, single application system. When the system of Sigl calls the help screen to display, the help information provided can only be assumed to be

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part and parcel with the rest of the application. There is no disclosure anywhere in Sigl that teaches or even suggests that the help information provided is done so via an independent application.

As a result, Sigl does not teach a software input method manager that is independent of the application program. Contrary to claim 1, Sigl does not teach a plurality of input methods also independent from any application program. Sigl teaches a single application program having integrated input methods that are determined by the context of the application program itself and not by any sort of software input method manager. Yogaratnum does not cure this deficiency in that Yogaratnum is directed to a virtual keyboard manager that is operable to provide a virtual keyboard for any number of Java implementations with the context of Java runtime environment. However, all implementations of this solution are only applicable to Java environments; thus, any Java implementations are not actually independent of the Java virtual keyboard.

Furthermore, the alleged motivation to combine the teachings of Sigl with the teachings of Yogaratnum is unrealistic. Specifically, the Office action's assertion that the combination of Sigl and Yogaratnum would have been obvious to a person skilled in the art at the time the invention was made because modifying software input methods to be used with different applications makes for a more versatile input system is unmistakably a conclusory statement based on an impermissible use of hindsight reasoning. This is akin to saying that a car and an airplane, both being passenger vehicles, may be obviously combined because a "carplane" is more versatile.

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As a matter of law, obviousness may not be established using hindsight obtained in view of the teachings or suggestions of the applicants. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). To guard against the use of such impermissible hindsight, obviousness needs to be determined by ascertaining whether the applicable prior art contains any suggestion or motivation for making the modifications in the design of the prior art article in order to produce the claimed design. The mere possibility that a prior art teaching could be modified or combined such that its use would lead to the particular limitations recited in a claim does not make the recited limitation obvious, unless the prior art suggests the desirability of such a modification. See *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Sigl and Yogaratnum, whether considered individually or in any permissible combination with each other or any other prior art of record, fail to teach or even suggest the recitations of claim 1.

Notwithstanding these differences, claim 1 has been amended to recite that each software input method is stored in a software input method database wherein the database communicates uniquely with the software input method manager. Nowhere in any prior art of record is there any teaching of a database of input methods by which a software input method manager may uniquely communicate with and choose an input method among the input methods stored therein.

Further yet, claim 1 has been amended to further recite an application state determination mechanism coupled to the software input method manager and each of the plurality of applications; the application state determination mechanism

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operable to determine the date of the first and second application programs. In the teachings of the prior art, any teaching that discloses such an application state determination mechanism component would have disclose this component as part of the same component being (incorrectly) construed as the software input method manager. Neither exist in the prior art, but even if a software input method manager could somehow be manufactured from the prior art teachings, the Office action cannot properly construe the same component to be two different and distinct components simultaneously. Nevertheless it appears that the Office action has done so, which appears to be an unreasonable attempt to extend its already improper rejection simply because the recitations of claim 1 recite two separate components. Applicant submits, therefore, that claim 1 is allowable over the prior art of record for at least these reasons.

Applicant respectfully submits that dependent claims 2-10, by similar analysis, are also allowable. Each of these claims depends either directly or indirectly from claim 1 and consequently includes the recitations of independent claim 1. As discussed above, Sigl and Yogaratnum, whether considered independently or in any permissible combination with each other or any other prior art of record, fail to teach or suggest the recitations of claim 1 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 1 noted above, each of these dependent claims includes additional patentable elements.

For example, claim 3 essentially recites the system of claim 1, further comprising a component external to the application program that hosts the

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application state determination mechanism that determines the state of the application and communicates the state to the software input method manager. Certainly, Sigl does not teach any components external to the application program that determine the state of the application program. Despite the Office action's assertion that a help application reads on this recitation, the help application (which is merely part of the overall application as Sigl never refers to the help function as an independent "application") does not determine the state of the application and communicate the state to the software input method manager as recited in claim 3. Again, Sigl teaches a single application program that is capable of different input states as determined by the application program itself, and thus does not teach or even remotely suggest the recitations of claim 3. Yogaratnum does not cure this deficiency. For at least this additional reason, applicant submits that claim 3 is allowable over the prior art of record.

As another example, claim 10 essentially recites the method of claim 1 with the additional subject matter of a database of previous user input information, wherein the software input method configures at least some keys on the input panel based on the previous user input information. Again, Sigl simply teaches a single application program capable of selecting its own input states. Certainly, Sigl cannot be construed to teach or suggest a database that allows a software input method (that is independent of the application program itself) to configure at least some keys on an input panel as recited in claim 10. No reasonable interpretation of Yogaratnum can come close to curing this deficiency. Applicant submits that claim 10 is allowable for at least this additional reason over the prior art of record.

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Furthermore, the Office action rejected claim 8 as being unpatentable over Sigl in view of Yogaratnum and in further view of Cobbley. Applicant respectfully disagrees. For similar reasons as discussed above, Sigl, Yogaratnum and Cobbley, whether considered alone or in any permissible combination with each other or any other prior art of record, fail to teach or suggest the limitations of claim 1; even if somehow permissible to combine these disparate references, Cobbley does not cure the other references' deficiencies. Claim 8 depends directly from claim 1 and consequently includes the recitations of independent claim 1. Applicant respectfully submits that dependent claim 8 is therefore allowable. In addition to the recitations of claim 1 noted above, claim 8 includes additional patentable elements.

Turning to the next independent claim, amended claim 11 recites a computer-implemented method, comprising receiving application state data from a first application program and a second application program that are among a plurality of application programs, the application program state data received at a software input method manager via an application state determination mechanism that is independent of the application programs and independent of the software input method manager, the software input method manager further being independent of each of the plurality of application programs, selecting a selected input method from an independent database of input methods for the first application program and for the second application program from a plurality of software input methods, each software input method being independent of each of the plurality of application programs and having an input panel configured to

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receive user input based on user interaction therewith, and returning data to at least one application program corresponding to user interaction with at least one input panel, the at least one input panel having at least one displayed key that when actuated returns a string of at least two characters to at least one application program.

The Office action rejected claim 11 as being unpatentable over Sigl in view of Yogaratnum. The Office action cited sections and references to Sigl and Yogaratnum that were the same as those referenced in the rejection of claim 1 and recited a similar argument that was presented with respect to claim 1. Applicant respectfully disagrees.

Applicants submit that the Office action has failed to establish a *prima facie* case for obviousness. As was discussed above with respect to claim 1, Sigl simply teaches a single application program capable of determining its own input state and appearance of an input panel based upon a determination of its own state. In fact, it appears that Sigl teaches a typical program structure. If the application program reaches a first state (such as a chemical input section), then it provides a first input panel; if the application program reaches a second state (such as a help request), then the same application provides, on its own, a second input panel; and so on. As a result, the different input states and input panels are meaningless outside the context of the application program and without the context of each other, and certainly cannot be construed to be provided to a different application. Yogaratnum is also similarly inapplicable to claim 11 in that at least, displaying

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different inputs outside of the Java runtime environment, *i.e.*, a different application that is not Java-based, is not taught or suggested by Yogaratnum.

Again quite differently, claim 11 substantially recites receiving state data about an application program that is among a plurality of application programs, in which the state data received at a software input method manager is independent of each of the plurality of application programs, and, furthermore, selecting an input method that also is independent of each of the plurality of application programs. In this manner, the application program need not be concerned with the input method that has been chosen, but simply be concerned with the actual input (*i.e.*, the data). Sigl, on the other hand, does not teach or suggest receiving, from an application program that is among a plurality of application programs (each able to send state data), application program state data at a software input method manager, the software input method manager independent of each of the plurality of application programs. Nor does Sigl teach or suggest selecting a selected input method from a plurality of software input methods, each software input method being independent of each of the plurality of application programs as recited in claim 11. Yogaratnum does not cure this deficiency.

Furthermore, the Office action's assertion that the combination of Sigl and Yogaratnum would have been obvious to a person skilled in the art at the time the invention was made because modifying software input methods to be used with different applications makes for a "more versatile input" system, is wholly based on impermissible hindsight reasoning gleaned from applicants' teachings, and is impermissibly broad and conclusory, as discussed above. Such broad, conclusory

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statements do not come close to adequately addressing the issue of motivation to combine, are not evidence of obviousness, and therefore are improper as a matter of law. *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). In sum, Sigl and Yogaratnum, whether considered individually or in any permissible combination with each other or any other prior art of record, fail to teach or even suggest the recitations of claim 11.

Notwithstanding these differences, claim 11 has been amended to recite selecting a selected input method from an independent database of input methods. Nowhere in any prior art of record is there any teaching of a database of input methods by which a software input method manager may uniquely communicate with and choose an input method among the input methods stored therein.

Further yet, claim 11 has been amended to further recite the application program state data received at a software input method manager via an application state determination mechanism that is independent of the application programs and independent of the software input method manager. In the teachings of the prior art, any teaching that discloses a component that may be construed as some sort of application state determination mechanism necessarily has to find that this component is part of the same component that was (improperly) construed as the software input method manager. However, the Office action cannot fairly construe the same alleged single component to be two different and distinct components simultaneously, when the recitations of claim 11 recite two separate elements. Applicant submits that claim 11 is allowable over the prior art of record for at least these reasons.

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Applicant respectfully submits that dependent claims 12 and 13, by similar analysis, are also allowable. Each of these claims depends directly from claim 11 and consequently includes the recitations of independent claim 11. As discussed above, Sigl and Yogaratnum, whether considered individually or in any permissible combination with each other or any other prior art of record, fail to disclose the recitations of claim 11 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 11 noted above, each of these dependent claims includes additional patentable elements.

Turning to the last independent claim, amended claim 14 recites a computer-implemented method, comprising receiving application program state data from a first application program and a second application program that are among a plurality of application programs, each application program state received at a software input method manager via an application state determination mechanism that is independent of the application programs and independent of the software input method manager, the application state determination mechanism and the software input method manager independent of the application program corresponding to the application program state data, selecting an input panel from a database of input panels based on the application program state data, the input panel independent of each of the plurality of application programs, displaying keys on the input panel to enable user interaction with the input panel, and returning key data to the application program corresponding to user interaction with the input panel.

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The Office action rejected claim 14 as being unpatentable over Sigl in view of Yogaratnum. The Office action again cited sections and references to Sigl and Yogaratnum that were the same as those referenced in the rejection of claims 1 and 11 and recited a similar argument that was presented with respect to claims 1 and 11. Applicant respectfully disagrees.

Again, as was discussed above with respect to claim 1, Sigl simply teaches a single application program capable of determining its own input state and appearance of an input panel based upon a determination of its own state. If the application program reaches a first state, then it provides a first input panel; if the application program reaches a second state, then it provides a second input panel; and so on. As such, the different input states and input panels are meaningless outside the context of the application program and without the context of each other.

Again quite differently, claim 14 recites receiving state data at a software input method manager that is independent of each of the plurality of application programs and selecting an input method that also is independent of each of the plurality of application programs. In this manner, each of the application programs need not be concerned with the input method that has been chosen, but simply be concerned with the actual input (*i.e.*, the data). Sigl, however, does not teach or suggest receiving application program state data at a software input method manager that is independent of each of the plurality of application programs corresponding to the application program state data, nor does Sigl teach selecting an input panel based on the application program state data, the input panel

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independent of each of the plurality of application programs as recited in claim 14. Yogaratnum, even if somehow permissible to combine with Sigl or any other prior art of record, clearly does not cure this deficiency. Sigl and Yogaratnum, whether considered individually or in any permissible combination with each other or any other prior art of record, fail to teach or even suggest the recitations of claim 14.

Notwithstanding these differences, claim 14 has been amended to recite selecting a selected input method from an independent database of input methods. Nowhere in any prior art of record is there any teaching of a database of input methods by which a software input method manager may uniquely communicate with and choose an input method among the input methods stored therein.

Further yet, claim 14 has been amended to further recite the application program state data received at a software input method manager via an application state determination mechanism that is independent of the application programs and independent of the software input method manager. In the teachings of the prior art, even if there is somehow found some teaching that discloses a component that may be construed as some sort of application state determination mechanism, such a component would have to be part of the same component that the Office action is (improperly) construing as the software input method manager. Notwithstanding that no such component exists in the prior art of record, it is unreasonable for the Office action to construe the same allegedly existing component to be two different components simultaneously, which apparently was done simply to reject the claim. Applicant submits that claim 14 is allowable over the prior art of record for at least these reasons.

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Applicant respectfully submits that dependent claims 15-24, by similar analysis, are also allowable. Each of these claims depends either directly or indirectly from claim 14 and consequently includes the recitations of independent claim 14. As discussed above, Sigl and Yogaratnum, whether considered individually or in any permissible combination with each other or any other prior art of record, fail to disclose the recitations of claim 14 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 14 noted above, each of these dependent claims includes additional patentable elements.

For at least these additional reasons, applicant submits that all the claims are patentable over the prior art of record. Reconsideration and withdrawal of the rejections in the Office action is respectfully requested and timely allowance of this application is earnestly solicited.

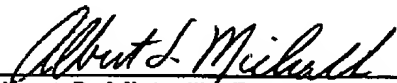
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CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-24 are patentable over the prior art of record, and that the application is in good and proper form for allowance. A favorable action on the part of the Examiner is earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,


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